

**DEC Human Health Criteria Technical Workgroup
Meeting #3 Notes
October 30, 2015**

Time of Meeting: 3 PM – 5 PM

Location of Meeting: Voth Hall, Performing Arts Center, Anchorage, AK

Technical Workgroup for Water Quality Standards HHC Members present at the meeting:

- Nancy Sonafrank, DEC Division of Water (DEC/DOW)
- Ted Wu, DEC Division of Spill Prevention and Response (DEC/SPAR)
- Dr. James Fall, Alaska Department of Fish & Game/ Division of Subsistence (DF&G/ Subsistence); Marylynn Kostick (DF&G/ Subsistence)
- Dr. Ali Hamade, Alaska Department of Health & Social Services/ Division of Public Health (DHSS/ DPH)
- Lon Kissinger, US Environmental Protection Agency (USEPA R10)
- Michael Opheim, Seldovia Village Tribe (Seldovia); Tracie Merrill, Seldovia
- Dr. Lori Verbrugge, US Fish and Wildlife Service (USFWS)
- Dr. Kendra Zamzow, Center for Science in Public Participation (CSP2)

Technical Workgroup for Water Quality Standards HHC Members present via telephone:

- Dr. Robert Gerlach, DEC Division of Environmental Health (DEC/EH)
- Alison Kelley, NANA Regional Corporation (NANA)

Interested Parties present at the meeting:

- Michelle Hale, Director, DEC/DOW
- Natalie Wagner, DEC/DOW
- Matt Szelag, USEPA R10
- Ron Rimelman, NovaGold
- Tony Gallegos, Ketchikan Indian Community

Meeting Facilitator: Brock Tabor, DEC/DOW

Meeting Notetaker: Gina Shirey, DEC/DOW

Action Items:

Who	Will do What	By (Date)
ADF&G	Review harvest data and developing some rates for specific communities	January meeting
ADF&G	Prepare distribution graphs showing percentiles of fish consumption intake in rural areas	January meeting

DEC	Look into finding information on grocery shipments of fish to rural areas	January meeting

**Agenda for Water Quality Standards HHC Technical Workgroup (HHC Workgroup)
Meeting #3 October 30, 2015:**

- Review of HHC issues and meeting schedule
 - **Recap Issue #3 (part one) – What is the appropriate Level of Protection for Alaska to consider?**
 - FCR: Consumers v. Non-consumer
 - FCR: General v. Highly Exposed population(s)
- **Issue 4a: What should Alaska include when deriving a Fish Consumption Rate?**
 - Sources of fish and shellfish
 - Local v. commercial sources of fish
 - Role of salmon- what OR/WA/ID did and didn't do
 - Approach(es) used by other states
- Public Comment

Meeting Documents

1. Technical Workgroup Notebook
 - a. Chapter 4: Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000): (NOTE THAT THIS DOCUMENT WILL NOT BE IN THE NOTEBOOK DUE TO SIZE OF DOCUMENT)
http://water.epa.gov/scitech/swguidance/standards/upload/2005_05_06_criteria_humanhealth_method_complete.pdf
 - b. Idaho White Papers: Market v. Local Fish and Anadromous Fish

Review of HHC Issues and meeting schedule

The HHC Workgroup meeting commenced at approximately 3 pm. Brock Tabor reviewed the purpose of the workgroup and asked about how to take concrete steps to make recommendations. He doesn't expect agreement on the topics but expects everyone to share their input as they see fit.

Nancy Sonafrank discussed the role of a summary produced by technical workgroup that would include recommendations. In the last meeting notes, there were some draft recommendations, and they are still very draft. DEC would like to circle back to those issues and have a focused discussion. By the next meeting, DEC anticipates having an outline of a report for preliminary recommendations.

Recap Issue #3 (part one) – What is the appropriate Level of Protection for Alaska to consider?

Since this is a recap of an issue brought up at the last meeting, Brock led the group in discussing the issue of consumers versus non-consumers.

Workgroup Summary: FCR – Consumers v. Non-consumers

- Reasons for including non-consumers
 - May actually be consumers misidentified
 - May decrease “true” Fish Consumption Rate when you trim the sample
- Reasons for excluding non-consumers
 - Not at risk from fish-borne contaminants
 - May increase “true” Fish Consumption Rate when you trim the sample
 - Adds additional conservatism to formula

Discussion

- WA went with 175 g/d fish consumption rate as a policy decision. Was struck by what EPA said – it can be really, really complicated, and we can also try to simplify. It can be as simple or as complex as we want to make it. We can adopt number, negotiate a number, etc.
- To some extent, we should decide how much we want to debate a number. Changing the number by 50 or 60 doesn’t change things much.
- The best numbers still have some uncertainty. Always a bit of a guessing game.
- AK will not go less than 175 g/d fish consumption rate.
- May be regional differences (rural v. urban).
- How much are we going to debate? We have a tool to find what the difference would be with different numbers. OR already has a spreadsheet to use to calculate different criteria by plugging in different values.
- EPA has spreadsheets to do similar calculations. Fish consumption rate will make a difference for certain chemicals and not others.
- At some point, we might want to have our own spreadsheet.
- Agree that small difference won’t make a big difference in guidance levels. On the other hand, we need to be able to defend those. People will want to know where they came from. If we don’t have good data, the process won’t look good.
- It will make a difference for pesticides. We need to pay attention to those chemicals that may be present in AK.
- Relative Source Contribution is going to be a more important term.
- How much effort do we put into tailoring to each chemical?
- For bioaccumulative toxins, Relative Source Contribution will make a difference. The Relative Source Contribution can vary quite a lot by chemical and region.
- We should start with bioaccumulative contaminants. Maybe if we’re looking at arsenic, we should look at drinking water and where it was coming from.
- When it comes to Relative Source Contribution, EPA has done a broad brush approach. They haven’t done it parameter by parameter. WA didn’t think .2 was right for them. There is not a lot of information to go parameter by parameter unless Alaska wants to conduct a significant amount of research.
- I don’t think we have to get that complicated. We should look at bioaccumulation. We should look at marine mammals. We need to take into account marine mammal consumption but the best place may be in the RSC.
- In the notes from the last discussion we had, most people seemed to be going towards consumer only, which is a more conservative approach. Is that a general consensus?

- If use a target population of consumers only, the values may be more conservative. If use consumers and non-consumers, then our criteria may be less restrictive but not accurately represent risk to the population of concern
- What were the findings in WA and ID? What was the ratio? Small ratio of non-consumers. Probably even lower in AK.
- If you're looking at rural Alaska the difference between consumers and non-consumers is very likely to be very small.
 - Seldovia only had 1 adult that didn't eat fish. 95-98% of the households used fish.
 - Fairbanks (Interior) has fish consumption culture from rivers.
- Maybe in this case, it would be a good idea to get information about non-consumers. ADF&G can get the information.
- Mostly, no one is a non-consumer any more.
- Interested to see difference between non-consumers and consumers.
- Look at more data and see what % is non-consumers. ADF&G can find that information in their database. No data source for urban areas.
- Data for urban areas based on sport harvest. ADF&G knows how many households participating but not consuming.
- Is there a research need? Do we need to find out what % of urban populations are consumers?
- What do you want to be basing your fish consumption rate on? Base on high end consumers? If so, base the rate on traditional users.
- Would you just develop recommendations for rural areas and apply to urban areas. The EPA methodology indicates states should protect at the 50th of high consuming population & the 90th percentile of general population. Are you still protecting high consumers? If we protect high consumers, we may not need to consider data for urban users.
- Don't have data on high fish consumers in urban areas like Asian populations.
- Need to clearly define non-consumers. It doesn't seem like we have enough data.
- This seems like risk management decision. If set standard 90% of general population, high risk for high consumers. There are some environmental justice issues to consider in this matter. In ID, WA, OR, the issue has come up about treaty rights, which is another wrinkle in the issue about determining high consumers.
- With percentiles, we need to create some sidebars.
- Methodology is silent for non-cancer hazards.
- We will be dealing with data gaps. How important is it to get data on this point? Should we take a conservative assumption on this point?
- Bring back graphs at next meeting so that we can see 90th percentile.
- Q: from a policy perspective, what are the problems with assuming all Alaskans are consumers? Does that add hiccups when identifying high consumers?
- If selecting based on high consumers, focus on subpopulation.
- If you don't exclude non-consumers, then consumption would be lower.
- If subpopulation selected appropriately, there are better ways to use the resources to find out the actual consumption rate.
- If we can't enumerate the number of non-consumers, then we have to assume everyone is a consumer.

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Commented [KL1]: The EPA methodology doesn't indicate this. Basically, it gives State and Tribes the option of using central tendency or upper bound FCRs with either the general population or high fish consuming populations.

- For rural populations, we can with ADF&G surveys, Seldovia survey, and any other future studies. For populations, we could get info to back up assumption on high consumers.
- We can look at road connected communities vs. non-road connected communities. Approximately 30-40 studies in sub-urban places (Kenai, Nikiski, Valdez, Ketchikan, etc.).
- Let's keep that in mind and in the notes. Respond for next meeting.

Summary: It appears that there is general consensus for using consumer-only data as there is little likelihood that non-consumers will be a significant number of the population. Resources may be better spent in determining the sub-population for protection

Draft Recommendation:

1. DEC should use consumer-only data as long as the focus is on FCR that protect rural populations. There is little likelihood that non-consumers will be significant in rural areas.

Workgroup Presentation: FCR – General v. Highly Exposed population(s), aka Population of interest

- At the last meeting, we talked about the following topics:
 - Regional fish consumption rates
 - At the earlier public workshop, we talked about statewide and regional fish consumption rates. Or having a statewide fish consumption rate until regional fish consumption rates can be established.
 - Use 90th or 95th percentile for regional fish consumption rates particularly with 10⁻⁵ cancer risk rate
 - Seek out data for urban fish consumption
 - Seek more data on urban sub-populations
 - Use ADF&G database

Discussion

- Level of Protection for population of concern
 - If we choose the highest consumers, we will protect everyone.
 - Could accurately assume harvest equals consumption. We could be waiting for data that doesn't matter much.
 - Rural areas vs. urban.
 - Rural eats more fish than urban. If protect rural fish consumption, then protecting urban fish consumption as well.
 - Urban sources of fish harvest are known.
 - Focus on rural population because it will be the population with the most consumption.
 - If we err on highest consumers, I'm not as comfortable using the highest percentile.
 - We need additional discussion. Do we have information on subpopulation that is a population of concern? What are the tradeoffs? How do we balance?
 - Should we talk about hazard quotients? Maybe we can add into cancer risk level. There are certain chemicals for which cancer is not the issue. Will have later discussion on this.
- Sources of information

- Identifying communities with wealth of harvest data and do a fish consumption study there.
- Technical paper 261 goes into detail about how to translate harvest data to individual consumption values. This is a source of information that warrants additional consideration.
- Struck today with the possibility of designing a fish consumption survey in conjunction with a harvest data survey.
- Does ADF&G know the communities it will be surveying in 2016? Yes. Concern with respondent burden. The harvest survey is very long. We could probably use harvest data that was collected within the last few years.
 - Have you tried to normalize for fish runs? ADF&G has thought about it.
 - The communities to be surveyed in 2016 are dependent on funding.
 - In conjunction with NEPA, hasn't ADF&G added fish consumption questions to survey? No, ADF&G is asking food security questions.
- If we wait on collecting data and monitoring, then we're waiting to make a decision.
- We need to get more information regarding rural populations and range of consumption. We have Seldovia fish consumption rates and harvest data. Can we take that and apply to other areas of the state?
 - General consensus was no due to the differences between communities.
- Looking for range of high consumer.
 - Which area is the highest? Western AK pre-chinook crash. 350 g/day. SW 175 g/day. Fish and shellfish harvest.
 - Now we're talking about the highest of the highest consumers. Or do we want to consider all the communities that have good data? Look at data for all of rural AK and look at what percentile.
- If we try and pick out certain communities, then sample numbers go down and the confidence level goes down. Look at rural database as a whole or slice a couple of different ways (road, non-road).
 - Develop the graph on slide 12 for the database.
 - What about January? Probably doable.
- Is EPA funding fish consumption surveys in AK?
 - Yes, with funding by IGAP. Seldovia work was funded under a special projects grant. For 2017, special project funding for solid waste. Potential projects use regular IGAP funding.
 - There has been conversations with Tlingit and Haida and Klawock to do community project. Ketchikan Indian Community is also interested.
 - Need money to do surveys. All IGAP money is usually fully allocated a year in advance.
 - Maybe a conversation with EPA about funding these surveys. ID used IGAP funding for surveys under an EPA-managed contract. Results highly political.
 - Might be good to start discussions with Sun'aq about their fish consumption survey. They are using food frequency approach.
- Implementation
 - WA & ID looked at having regional fish consumption rates. They found difficulties in implementing different rates. OR also looked at and decided not to do that.
 - Regional rates add another magnitude problem.

- Betsy Nobmann work looked at harvest vs. consumption in the IDM report. It varied a bit by region.
- One thought: have one level for the state. Address higher rate in permitting process.
- Contaminated sites has one number conservative for the state and allow for site-specific criteria. They have a method for risk assessment that they use to develop clean up numbers. It would be a way of addressing it. One conservative number. Site-specific can go both ways; it can be either more or less stringent.
- Would have to work out process for doing this in the permitting process.

Summary

There is continued discussion about the population of concern. It appears that rural populations may be the most exposed but this does not consider Asian or Pacific Islanders in urban areas. There was consensus that further review of the applicability of ADF&G harvest data for developing consumption rates (at least in those communities that have been surveyed) is warranted. ADF&G is going to be reviewing harvest data and developing some rates for specific communities for January meeting. What would be the most appropriate percentile for protecting highly exposed populations was not discussed.

Draft Recommendations

1. Protection of rural populations will likely protect urban population. DEC should focus on studying rural populations to set the Alaska FCR.
2. Data that represents the Asian/Pacific Islander population needs to be found and considered for urban areas.
3. Review of ADF&G harvest data (including Tech Paper 261) may provide a basis for Alaska FCR.

Issue 4a: What should Alaska include when deriving a Fish Consumption Rate or Range?

Workgroup Presentation and Discussion: All Fish (market and local) or Local only

- Methodology says local fish consumption should be FCR, marine sources should be part of RSC but this is not how it has played out in Northwest
- Example – Dick & Jane. Dick lives in Anchorage and eats tuna. Jane lives in Gustavus and regularly eats salmon and halibut. We could potentially not count Dick since he doesn't eat any AK fish.
 - Seems like you'd like to base criteria on fish in waters you're protecting.
 - We should consider looking at fish that are appropriately included in the fish consumption rate for Clean Water Act jurisdictional waters.
- In AK, majority of fish is likely to be local.
 - Q: Restrict definition of market fish to only CWA water fish?
- If local only, less confidence in the protectiveness of the Fish Consumption Rate.
 - For the OR Fish Consumption Rate, EPA took a strong position about anadromous? species. OR did include them. Do we even have the option to exclude? If OR only has the approved Human Health Criteria rate, it doesn't seem this is a question we get to answer. We have some latitude to pick fish. Not only choice EPA would approve. Salmon are a bit of a judgment call. Deep marine fish are out (or we have the option to include). Salmon is a wild card. If you could say a fish wasn't

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obtaining and contaminants from Clean Water Act jurisdiction waters, then they are out. You can include if wish to. Agree with science. Public Relations nightmare. A breakout discussion was about Clean Water Act waters, what species should we include or exclude? Got some possible sources of information to start to look at these things.

- Since halibut and crab get a state permit, would it be difficult to argue state waters but not state waters? How do you defend which species you cut out? For example, crab. If you cut out, how do you defend the decision?
- Look at foraging behavior – are they passing through or spending time there?
- Isotopic studies? Talk to ANTHC.
- How big of an issue is it? It depends on the region. The table on slide 18 comes from WA's work. If you look at subpopulations and sources of fish, the numbers are not that different. Potentially we might not be much different in our preference for local over market fish. If you live in coastal community relying on subsistence, the difference between market and local fish could be a moot point. AK also produces a lot of market fish. At the end of the day, maybe our energy is better spent in other places.
 - Interesting to look at AK and where they are getting their fish. Maybe including market fish isn't so far off. If you are in the Lower 48 and get fish from 4 different states, if level is too low,....
 - For food that comes into a small community, there could be a data source. Talk to store and see how much fish they bring in. Or talk to Alaska Commercial Company on what they send out to their rural stores.
- ADF&G survey includes harvest by anything method. That's the data we have to work with.
- If choosing high consuming population and local population, probably protecting urban market. Let's focus on the data we got. Focus on local consumption in rural populations.
- In the Seldovia fish consumption survey, they asked how much fish they were consuming generally and then by individual species. There were some general questions about where they were getting the resources. Approximately 80% was local.
- In R10, how has this played out?
 - ID – EPA's comments suggest exclusion of market fish is not acceptable. "Market basket" approach is mentioned in EPA comments to Idaho draft rulemaking.
 - Comment: WA is including market fish, OR included market fish, and feedback to ID is that exclusion of market fish is not acceptable.
- If focusing on high consuming populations and harvest data, not leaving a lot out. Will not include market basket be an issue for EPA? EPA – that is an issue to be looked at.
- Q: what if the fish is export first for processing and imported back in? We have talked about excluding market fish?
- (ADFG) Didn't include market fish because not statically important in target population.
- We might need to come up with something more than "believe." We can't just believe; we have to find out for sure. We have to justify our decisions.

Summary: It appears that there is a general feeling that "market-fish" will not make up a significant amount of consumption in rural sub-populations. Data on fish imports and purchases may be available but will need to be collected. ADF&G information only focus on the consumption of "local" fish and the Seldovia report attributed 80%+ of fish consumption to be from local sources.

Draft Recommendation:

1. Consumption of market-fish may not be a significant factor compared to the consumption of locally-sourced fish/aquatic life for rural populations
2. DEC should look for data on the amount of fish and shellfish sold commercially in rural areas.

Treatment of Marine Mammals

- Are marine mammals included in the Relative Source Contribution?
 - This decision is policy-based; not data driven.
- How are you going to adjust?
 - (ADF&G) We've done it individually for rural coastal communities. Marine mammals can't be sold.
- Bowhead whales go to the South Pacific.

Summary: Issue will be discussed in detail in the future

Workgroup Presentation and Discussion: Role of Anadromous Species. NOTE that the presentation was shortened due to time restrictions

- Alaska has the following options:
 - Use full consumption rate for salmon
 - Use a discounted salmon consumption rate (taking into consider the time the salmon spend outside of Clean Water Act jurisdictional waters)
 - Exclude salmon from the fish consumption rate
- EPA uses freshwater fish only in their consumption rate. Marine fish are included in the RSC.
- DEC is leaning towards including anadromous species.
- ID approach is different from AK's discussion of high consumers.
- Reasons to include
 - AK and anadromous species are closely linked
- Reasons to exclude
 - Where are toxics coming from? They are probably not coming from waters that AK regulates through the Clean Water Act.
- It would be inconsistent if we exclude marine fish but include anadromous fish. Let's include all fish – marine and market. Or only look at Clean Water Act fish and restrict to that and not make exceptions.
- If use ADF&G harvest data, they didn't get market information. Maybe not use that data? Use Betsy's Nobmann's data. Or use to show very little market fish consumption in that subpopulation in those rural areas.
- Are salmon getting contaminants in Clean Water Act waters? May depend on species. Also a policy question.
 - Fish tissue monitoring program is not demonstrating sources of toxics in Alaska's waters
 - Herring have containments. Salmon getting contaminants from herring. Adult salmon get less contaminants when they come back to AK. AK's salmon migration range longer. AK waters less contaminated.

Commented [KL2]: Not necessarily. SEE: <http://www.epa.gov/sites/production/files/2015-01/documents/fish-consumption-rates-2014.pdf>

- Could have an option for adjusting the consumption rate for salmon. Most biomass for salmon is generated outside of Clean Water Act water. Include but discount because some beyond our control?
- Perception
 - Appropriate to include salmon
 - Uncertainty to sources of contaminants
 - Tribal consumption
 - AK and salmon are closely linked
- Should we make a policy based on perception? What if science shows that the salmon are not picking up contaminants in Clean Water Act jurisdictional waters?
- Alaskans won't understand why if salmon is excluded. If I live in a rural area and you exclude salmon, you are excluding all fish that I eat. More consistent if included.
- Some states put salmon in because of difficulties with the Relative Source Contribution.
 - Relative Source Contribution is only for non-carcinogens.
 - In WA, 175 g/d fish consumption was a policy decision. Same with Relative Source Contribution of 1 (all contaminants are considered to be from sources within WA's jurisdiction).
- Food substitutions occur. Freshwater fish used when salmon runs fail.

Summary: There was understanding that how anadromous fish will be treated will be a policy decision. There was also understanding that inclusion in the FCR may lead to making certain choices about the relative source contribution or other parts of the equation. The workgroup will need to revisit this issue.

Draft Recommendations:

- None at this time

Workgroup Discussion: Approach(es) used by other states

Due to time constraints, this topic was not discussed at the meeting.

Public Comments

There were no public comments.

NEXT MEETING

Technical Workgroup Meeting #4 (TBD)

- Agenda topics to be determined